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## SCIENCE AND THE IMAGINATION.

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Do we not all give ourselves needless anxiety by defining the province of art, and denouncing whatever will not fit into our definition, and by magnifying the difference between science and literature? These appear to be separate sources of trouble, but possibly they are not so remote from each other as may at first appear. Art, we are told, has to do with the emotions, and the emotions are as sharply distinguished from the intellect as are the various regions on a phrenologist's cast of the head. It is the duty of the painter, for instance, we are fond of saying, to represent the emotions by means of his brushes and pigments, and with that he is to stop. The same rule applies to literature. Yet, although a painter belongs to a profession that more, perhaps, than any other depends on tricks and rule of thumb, does he examine the emotions till he finds one unrepresented and proceed to illustrate that? Does a poet run over the work of his contemporaries until he notices that one passion, as, for example, jealousy, has been for some time neglected, and then try to fill up the the gap? Possibly this is the way Joanna Baillie wrote her plays, but then Joanna Baillie was not a poet.

Fortunately, the artist concerns himself very little about the province of art. The critics may define this as they please; he is inspired, not by their definitions, but by the tendency of the thought of his time. This is what makes him what he is. In other words, our painters and poets are what we make them. If we, the public, are vulgar and ignoble in our tastes and thoughts and actions, their work will be vulgar and ignoble, and it cannot be otherwise. Simply preaching to artists that their work should be grand and elevating can be of no more use than telling a number of convicts that they ought to be good. We may describe the province of art with the utmost fullness, but the painter draws his inspiration from the life about him,

not from books on æsthetics; he reflects the sentiments of his time rather than the text-books.

It may be urged that the paintings of a man like Millet by no means represent with accuracy the gaudy materialism of the Second Empire, and that hence our statement falls to the ground. Yet Millet no more created the insight into the pathos of humble life which makes his pictures genuine than he created the poverty and misery which touch our hearts in his paintings. The history of literature in the last hundred years enables us to see the growth of interest in the pauper, just as in politics we see the spread of democracy, which is the expression in practical life of the same feeling. Society, we must remember, is but the resultant of all individual aims and actions; art and literature are two of the forms in which it leaves the record of its interests and enthusiasms, just as politics is its practical expression.

A study of the analogy between literature and art would be most interesting, but, if complete, it would carry us too far from our present discussion. Whatever period we might take for examination, we should find a similarity between the two; not necessarily an equality of value, but similarity of aims. Thus, at the present day, the delight of some contemporary bards in making over the past, in pretending to be Chaucer or an early Italian poet, finds its expression also in the pictures of some of the English artists. Urging them to take different views of the province of art would be to indulge in declamation. Yet the phenomenon of the neo-romanticism of the present day does not, as we all know, show that our whole society is abandoned to wailing and picturesque masquerade; it is merely a sign that a number of people possess a certain taste which the rest of us are too weak or too much divided by opposing counsels to expel. These antics are but an eddy in the great movement of art and literature, which is as indifferent to the worship of the peacock and the lily as the great mass of voters are to old brocades. Poetry is not dead, in spite of the contemporary revival of euphuism, nor is painting a lost art because some painters turn their backs on the present and pretend to be somebody else.

If not all the work done now is marred by materialism or affectation, it is because a truer inspiration survives, which shuns materialism on the one hand and mock mediævalism on the other. The best thought is generally an exception; only at rare

intervals does it express the wide-spread fervor and engrossing interest of a country, as in the flowering of Greece and in the age of Elizabeth. Then, the surplus energy and exultant self-confidence of a whole people, not being distracted by the need of action, made an outlet for themselves in artistic expression. In this country, on the other hand, the constant demand for practical work has lessened the number of those who might otherwise have devoted themselves to art and literature, and it has also diminished the strength of whatever inspiration there might be. In politics we see the same experience repeated. We may take for example the vicissitudes of what is familiarly called the Tweed Ring. The existence of a band of plunderers, although but vaguely felt, was no secret to the inhabitants of New York. Yet, for a long time they took no steps toward freeing themselves from the incubus. The costliness of the city government was as well known to them as is the expensiveness of the municipal buildings to the people of Philadelphia, or the extravagance of what is called the junketing of common councilmen to the citizens of Boston. The revolt against Tweed came only when his misrule was too costly for endurance, too gross for toleration. Then selfish instincts relaxed their hold, and in a spasm of virtue the city rid itself of its enemies. The same materialism stands in the way of art and literature, excellence in which stands for virtue in the body politic. In all, the ideal is difficult of attainment. To have addressed the people on the province of politics would have been as idle as to read aloud to a man clambering up a steep cliff extracts from Newton's "*Principia*". on the law of gravitation. The discussion of the province of art is apt to be equally barren. The artist will never listen to it; he will paint his pictures in accordance with the feeling of his time, or, at best, of the few who, in his estimation, represent the highest imagination and best thought of his time. What he shall paint, what the poet shall write, lies in the control of every one of us, just as the policy of our government lies in the hands of its citizens. The impotence of a single vote is depressing, but it is the accumulation of single votes that controls the nation. We are the atoms that combine to form public opinion, that by our interests and enthusiasms and opinions on practical life and abstract questions form the ideal which poets and painters set before us. They teach us by showing us what we really are. The complete picture of society is given in a nation's literature and art. If the general interest in the higher

life is languid, these two representations of thought and feeling also languish. When we lament that art and literature are dying, it is because we are sick of our own image. They must die in us before they can die in the hands of artists.

Mere sporadic interest in things of the imagination and abstract thought is not enough. It must be widespread, or, at least, of weight in some prominent class before it can be in any way effectual. It is fair to hope that the larger the constituency, the better the representation. We may see in the fate of French tragedy the best that a small, carefully chosen class could accomplish; in comparison with the Elizabethan drama, which embodied the fervor of a whole nation, it seems cold and meager. When a people desires to possess a literature because every other country has one, it gets one that is manufactured rather than inspired, as unlike the natural growth as the books bought in a lump by the *nouveau riche* are unlike those collected by a man who reads. The French epics and the early Italian tragedies are an example of work done from a sense of duty. There always seems to be a great waste in the working of natural forces, and there is an analogous loss in the scattered, uncombined zeal which animates small circles here and there and fails to inspire a healthy general sentiment.

We see the same thing illustrated in politics. The eagerness of politicians in our behalf is the measure of our attention to our civic and national duties. It is only a general enthusiasm that can establish, for instance, civil service reform in this country; and what is true of this is true of politics in general. The quality of our art, whether of architecture, sculpture, painting, music, or literature—not necessarily any particular one or all of these—is the measure of the amount and nature of our imagination.

A hasty glance at any given period will not determine all that is going on in it. The eye is readily caught by a glitter which covers nothing solid. At the present day it is not the artificial revelry of the poets that expresses the feelings of the people; these possibly come nearer to finding their expression in the reaction which Walt Whitman, for example, announces against prettiness of expression and neatness of rhyme. He is, to be sure, riddled with obvious faults, on which it is not necessary to dilate. He continually offends the laws of taste and every principle of literary sanity; yet this is inevitable. It is hard to contradict impressively and yet with grace; and what

this writer does is to contradict the whole method of his time, to denounce current mannerism, and to put in its place absolute frankness. Every man who has sufficient enthusiasm to found a new method pays for it by the loss of wise judgment. The tilt that is given by extreme fervor alone inspires action; an absolutely sane man would doubtless remain forever in a condition of stable equilibrium; he would see so clearly the good and bad side of everything that he would not stir a finger. A dash of fanaticism, whether it incline us to charity, to art, to literature, or to self-indulgence, purchases accomplishment in one direction at the cost of failure in another. In short, fallible man has the faults of his qualities. Then, too, the leader in a new movement is unable to perceive clearly the best way in which a reform is to be made. He sees no errors that others have committed, which might serve as warnings; he makes all the mistakes for himself; but if he has the divine spark his method will live and grow clearer with the sincere work of every follower, until it gives way in its turn before some new development of thought.

Every change begins awkwardly, for nothing but practice can secure smoothness. English tragedy could not have been foreseen in *Gorboduc*, and it would have been hard to detect the full efflorescence of modern sentiment in Lillo's *George Barnwell*. Then, too, even reformers are hampered by their education. Zola, for example, detests romanticism, but it is easy to see in many of his novels that he, too, breathed the air of his time when he was young, and that he bears the mark of his early faith as truly as the ex-priest can hardly fail to show that he was once in orders.

In Walt Whitman and Zola we may see how literature is drawing its inspiration from some of the leading influences of the time, and notably from the general progress of mankind toward democracy. For more than a century society has been at work destroying the conventions which were raised with infinite pains, and literary conventions have felt the revolutionary spirit. The province of art has been changing with the varying tastes of men, so that while its past limitations may be defined, its possible growth in the future is not necessarily to be according to generally accepted rules. The rise of science is destructive to conventions. Freedom is the very breath of science, and the general free movement of boundless human curiosity cannot fail to affect literature. The movement toward realism is one instance of this. The precision of thought which science en-

courages cannot fail to become a habit which shall show itself in purely literary work. For an example, the destruction of the theory of special creation must affect literature by requiring that writers should shun incoherence, and should look upon the mere accumulation of psychological impossibilities, however impressive, as no better than the introduction of a ghost into a sleeping-car.

Certain lovers of letters are alarmed at the advance of science and seem to fear that, unless extraordinary precautions are taken, the imagination will expire like the Ptolemaic system of astronomy. Mr. Matthew Arnold takes up the cause of literature with some warmth in a recent number of an English magazine, and it is certainly an interesting sign of the times that we find belles-lettres on the defensive. It is a very ingenious defense that Mr. Arnold makes. His ridicule is effective, as ridicule generally is when used against new notions, and it is easy to imagine the smile that must have lit up the faces of his audience—for the article consists of a lecture—when, more than once, he mentioned the “hairy quadruped furnished with a tail and pointed ears, probably arboreal in his habits.”

Still, it is possible to conceive of a time when the division between literature and science shall be less sharply drawn than it is at present. Now they are looked upon as two hostile camps, and skirmishing is warm at the outposts. Yet there may be peace in the future when the man of letters shall cease to amuse himself and others with picturing the man of science as an arrogant person whose sole occupation is pouring some unsavory decoction from one glass tube into another, and when the scientific man shall no more imagine the man of letters to be a somewhat contemptuous person who prefers alliterations to more solid good. After all, what surprises people who have ceased to quarrel is the extent to which they agree, and when we consider that every one of us is the product of both scientific and literary training, we are conscious of no vast dissensions within ourselves. Possibly society may tolerate both literature and science.

The point now discussed is the prominence to be given to science in education, and Mr. Arnold derides those who maintain that the students who choose literature and history, do less well than those who study science. He illustrates the folly of his opponents by mentioning a member of Parliament who wrote a book about this country, which contained a good deal of valu-

able information about geology, and closed with the suggestion that we import an English prince and establish a constitutional monarchy. "Surely, in this case, the president of the section for Mechanical Science would himself hardly say that our member of Parliament, by concentrating himself upon geology and mining and so on, and not attending to literature and history, had 'chosen the more useful alternative.'" The question can hardly be regarded as settled by this error of a scientific observer. Students of literature and history have been known to make quite as gross mistakes as this one of the unliterary member of Parliament. It is scarcely ingenuous to father on science blunders that are as old as history, and which might easily be met by the *tu quoque* argument. How exact is Mr. Arnold's article on America?

When the classical system of education was established, about four hundred years ago, it covered the whole field of the learning of the time. It survives now, when nearly every other institution of that time has yielded to the growth of the modern spirit. Ecclesiasticism has bowed to the change; government has thrown half of its power to the governed; the faint glimmerings of science in those days are lost from sight in the splendor of what the world now knows by that name; and yet herds of schoolboys are filled with a distaste for letters because the languages of Greece and Rome are still employed as counters for the acquisition of prizes.

There are two things which tend to correct the narrowness of an exclusively classical education. One is the fact that worldly success requires a wider preparation than was demanded four centuries ago. Society, in this country at least, is learning to look upon devotion to the classics as a luxury, not as a necessity, and the colleges are meeting this new opposition, enlarging their curriculum. The classics are no longer the key to all knowledge, and it is idle of us to pretend that we think that they are. Secondly, and apart from this material reason, the recent growth of science which, through a thousand channels, is modifying the thought of society on every subject, demands a place in modern education. Certainly, colleges should be the leaders of thought if they wish to retain the influence they once had. It is not to be desired that students who have received what, by common consent, is called the best education of their time, should not be equipped for the position they are expected to take in the world. We do not wish our colleges to be vats of an-



tiquated opinion, in which students shall soak for four years and come out to find themselves compelled to unlearn faulty methods, to avoid being defenders of an obsolete past.

To say nothing of what the theory of evolution has done for the natural sciences, it has made over the history of human actions and of every form of human thought. It has shown us in what way literature, for example, grows in accordance with perceptible laws; it enables us to get a better vision of antiquity; it is, in short, like every great step in thought, a simplification of knowledge, and, like every great step in thought, it is met by sniffs and sneers.

The raw fact that a burning wax candle is converted into carbonic acid and water is but a scrap of education, or rather of information; but the comprehension of the processes of evolution, be it in language, history, or butterflies, gives one a key which he can apply with advantage to any accumulation of learning. After all, the great aim of teaching is not what to think, but how to think, and if this is best learned in a laboratory let us send boys into the laboratory.

That science will expel literature is no more likely than that geometrical diagrams will take the place of pictures. Art and literature may languish, but they will be most certain to do this when they turn their back on the great interests of society. Science must influence them, but it will be by purging them of the melodramatic element, which can certainly be well spared. There is no danger that we shall lose our admiration of masterpieces. We are no less moved by the apparition of Hamlet's father because we know that ghosts do not appear. All that I mean is this—that such work of ours as is done in the way we ourselves think natural and right, is more likely to live than such as we do because some one else has approved of it. Despair over the probable ruin of art and letters because science is powerful, is a superfluous abandonment of hope when we look upon the magnificence of modern literature that grew up an imitation of the Roman imitation of Greek writers.

If science gives us the truth about anything, there is more hope for letters than if these concern themselves only with musty conventionalities. Science enlarges the sphere of our observation and renders this more exact. In this way it feeds and does not blight the imagination.

THOMAS SERGEANT PERRY.